CLAIMS

1. A binder for an electric double layer capacitor electrode, which comprises a copolymer (A)

comprising:

monomer units derived from at least one compound (a) represented by the following general formula (1):

$CH_2=CR^1-COOR^2$ (1)

wherein R^1 represents a hydrogen atom or a methyl group, and R^2 represents an alkyl group or a cycloalkyl group, the glass transition temperature obtained by homopolymerizing the compound (a) being less than 0°C, and

monomer units derived from at least one compound (b) selected from acrylic acid alkyl esters, methacrylic acid alkyl esters, aromatic vinyl compounds, and α,β-unsaturated nitrile compounds, the glass transition temperature obtained by homopolymerizing the compound (b) being 0°C or higher,

wherein the total content of the monomer units derived from the compound (a) and those derived from the compound (b) is 90% or more by weight per 100% by weight of the whole copolymer (A), and

the glass transition temperature of the copolymer (A) is 10°C or lower.

2. The binder for the electric double layer capacitor electrode according to claim 1, wherein the copolymer (A) further comprises monomer units derived from an ethylenically unsaturated carboxylic acid (c) in an amount of 0.1 to 10% by weight per

100% by weight of the whole copolymer (A).

3. The binder for the electric double layer capacitor electrode according to claim 1, wherein R^2 in the general formula (1) is an alkyl group having 4 to 12 carbon atoms.

4. A binder composition for an electric double layer capacitor electrode, in which the following copolymer (A) is dispersed in water, a copolymer (A)
comprising :

monomer units derived from at least one compound (a) represented by the following general formula (1):

$CH_2=CR^1-COOR^2$ (1)

wherein R^1 represents a hydrogen atom or a methyl group, and R^2 represents an alkyl group or a cycloalkyl group, the glass transition temperature obtained by homopolymerizing the compound (a) being less than 0°C, and

monomer units derived from at least one compound (b) selected from acrylic acid alkyl esters, methacrylic acid alkyl esters, aromatic vinyl compounds, and α,β-unsaturated nitrile compounds, the glass transition temperature obtained by homopolymerizing the compound (b) being 0°C or higher;

wherein the total content of the monomer units derived from the compound (a) and those derived from the compound (b) is 90% or more by weight per 100% by weight of the whole copolymer (A), and

the glass transition temperature of the copolymer (A) is

10°C or lower.

5. The binder composition for an electric double layer capacitor electrode according to claim 4, wherein the content of alkali metal ions in the binder composition for an electrode is 0.2% or less by weight per 100% by weight of the copolymer (A).

6. A slurry composition for an electric double layer capacitor electrode, comprising: the binder composition for the electric double layer capacitor electrode as claimed in claim 4; and an active material for the electrode.

7. The slurry composition for the electric double layer capacitor electrode according to claim 6, further comprising a thickener in an amount of 0.5 to 5% by weight per 100% by weight of the active material for the electrode.

8. The slurry composition for the electric double layer capacitor electrode according to claim 7, wherein the thickener is a cellulosic polymer.

9. An electrode for an electric double layer capacitor, wherein an electrode layer comprising the following copolymer (A) and an active material for the electrode is bonded to a current collector:

a copolymer (A)

comprising:

monomer units derived from at least one compound (a) represented by the following general formula (1):

$CH_2=CR^1-COOR^2$ (1)

wherein R^1 represents a hydrogen atom or a methyl group, and R^2 represents an alkyl group or a cycloalkyl group, the glass transition temperature obtained by homopolymerizing the compound (a) being less than 0°C, and

monomer units derived from at least one compound (b) selected from acrylic acid alkyl esters, methacrylic acid alkyl esters, aromatic vinyl compounds, and α,β-unsaturated nitrile compounds, the glass transition temperature obtained by homopolymerizing the compound (b) being 0°C or higher;

wherein the total content of the monomer units derived from the compound (a) and those derived from the compound (b) is 90% or more by weight per 100% by weight of the whole copolymer (A), and

the glass transition temperature of the copolymer (A) is 10°C or lower.

10. An electric double layer capacitor, comprising the electrode for the electric double layer capacitor as claimed in claim 9.